

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| In re Application of |) | |
| Gino PALUMBO, et al. |) | Group Art Unit: 1795 |
| Patent Application No.: 10/516,300 |) | Examiner: W. T. Leader |
| Filed: December 9, 2004 |) | Confirmation No.: 5590 |
| For: PROCESS FOR ELECTROPLATING |) | Attorney Dkt No.: BROO3001/ESS |
| METALLIC AND METALL MATRIX |) | |
| COMPOSITE FOILS, COATINGS AND |) | |
| MICROCOMPONENTS |) | |

DECLARATION UNDER 35 U.S.C. 1§132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

UWE Erb hereby declares:

1. I am currently a Professor of Materials Science and Engineering in the Faculty of Applied Science at the University of Toronto.
2. The focus of my research since the early 1980's is in the areas of Interface Control in Materials and Nanostructured Materials.

3. My research team is internationally recognized as the leading group in the world in the development of electrochemical synthesis methods of nanostructured metals, alloys and composites. These materials have outstanding physical, chemical and mechanical properties usually not observed in conventional materials. Applications include wear and corrosion resistant coatings, environmentally benign replacement coatings for chromium and cadmium, nuclear steam generator repair, soft ferromagnetic materials for high performance motors and power supplies, and high strength structural materials for automotive, aerospace and consumer products.
4. I am the named inventor of several patents including U.S. Patent No. 5,433,797 and U.S. Patent No. 5,353,266; which were the first patents in the world dealing with nanomaterials made by an electrodeposition process.
5. I am also co-author of close to 200 scientific and technical papers in the field of producing nanomaterials using electrodeposition, published in international, leading journals and conference proceedings.
6. I am a scientific advisor for and a shareholder in Integran Technologies, Inc.
7. I understand that my patent (U.S. Patent No. 5,433,797) has been applied by the U.S. Patent and Trademark Office to reject claims in the U.S. Patent Application No. 10/516,300. My patent does not mention mixing or agitation. Example 7 of my patent says continuous stirring (0-500rpm) may be present. The purpose of this stirring in Example 7 was to remove concentration gradients and temperature gradients in the electroplating bath. The purpose of the stirring in Example 7 was

not to control microstructure grain size of an electrodeposit so it is nanocrystalline.

8. The continuous stirring mentioned in Example 7 is a different property from agitation rate normalized to electrode area and cannot be converted thereto without knowing the liters/minute provided by the stirring and the electrode areas and recitation thereof does not constitute a recognition that electrolyte flow, irrespective of electrolyte uniformity must be scaled to electrode size as a parameter for controlling microstructure grain size in an electrodeposit.
9. Declarant acknowledges that all willful false statements and the like are punishable by a fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statement may jeopardize the validity of this application or any patent issuing thereon.

Date

June 24, 2009

Uwe Erb